

What is claimed:

1. A device for effecting the condition of a mitral valve annulus of a heart comprising a resilient member having a cross sectional dimension for being received within the coronary sinus of the heart and having a longitudinal dimension having an arched configuration for partially encircling the mitral valve and exerting an inward pressure on the mitral valve when within the coronary sinus adjacent the mitral valve for constricting the mitral valve annulus.
- 10 2. The device of claim 1 wherein the resilient member has a distal end and a proximal end, and wherein the distal end and proximal end define an included angle of at least 180°.
- 15 3. The device of claim 1 wherein the resilient member has a distal end and a proximal end and wherein the resilient member longitudinal dimension is of a length to cause the proximal end of the resilient member to be proximal to the ostium of the coronary sinus.
- 20 4. The device of claim 1 wherein the resilient member includes at least one fixation element.
5. The device of claim 4 wherein the at least one fixation element is at a proximal end of the resilient member.
- 25 6. The device of claim 4 wherein the at least one fixation element is a plurality of teeth formed in the resilient member.
7. The device of claim 4 wherein the at least one fixation element is material mesh.
- 30 8. The device of claim 7 wherein the material mesh is a polyester mesh.

9. The device of claim 1 wherein the resilient member is formed of an alloy including at least nickel and titanium.

5 10. A mitral valve annulus constricting device comprising a generally C-shaped clip member formed of resilient material for exerting a substantially radially inward force on the mitral valve annulus when placed in the coronary sinus of a heart about and adjacent to the mitral valve.

10 11. A mitral valve therapy system comprising:
a resilient member having a cross sectional dimension for being received within the coronary sinus of a heart and having a longitudinal dimension having an arched configuration for partially encircling the mitral valve of the heart and exerting a substantially radially inward compressive force on the mitral valve annulus of the heart when placed within the coronary sinus adjacent the mitral valve, the resilient member having a proximal end including a coupling mechanism; and,
an elongated introducer formed of flexible material and having a distal end including a coupling mechanism for being releasably coupled to the resilient member coupling member for guiding the resilient member into the coronary sinus of the heart and being detached from the resilient member once the resilient member is placed within the coronary sinus to permit the introducer to be removed from the heart while leaving the resilient member positioned within the coronary sinus.

25 12. The system of claim 11 wherein the resilient member has a distal end opposite the proximal end, and wherein the distal end and proximal end define an included angle of at least 180°.

30 13. The system of claim 11 wherein the resilient member longitudinal dimension is of a length to cause the proximal end of the resilient member to be proximal to the ostium of the coronary sinus.

14. The system of claim 11 wherein the resilient member includes at least one fixation element.

5 15. The system of claim 14 wherein the at least one fixation element is at the proximal end of the resilient member.

10 16. The system of claim 14 wherein the at least one fixation element is a plurality of teeth formed in the resilient member.

15 17. The system of claim 14 wherein the at least one fixation element is material mesh.

18. The system of claim 17 wherein the material mesh is a polyester mesh.

19. The system of claim 11 wherein the resilient member is formed of an alloy including at least nickel and titanium.

20 20. The system of claim 11 wherein the introducer is formed of stainless steel.

25 21. The system of claim 11 further including an elongated cylindrical sheath dimension for receiving the resilient member and the introducer, the sheath being flexible for advancement into the coronary sinus and guiding the resilient member into the coronary sinus.

30 22. The system of claim 21 wherein the sheath has a distal end and wherein the resilient member coupling mechanism and introducer coupling mechanism are releasable when the distal end of the sheath is proximal to the introducer coupling mechanism.

23. The system of claim 22 wherein the sheath is formed of polyester.

24. The system of claim 11 wherein the resilient member and introducer are rotatable relative to one another for causing the introducer coupling mechanism and resilient member coupling mechanism to release.

5 25. A method of treating dilated cardiomyopathy of a heart of a patient, the method including the steps of:

10 providing a constriction device formed of resilient material having an unstressed C-shape configuration with an effective radius less than a dilated mitral valve annulus radius and a cross sectional dimension for being received within the coronary sinus of the heart; and

15 advancing the constriction device into the coronary sinus of the heart until the constriction device at least partially encircles the mitral valve of the heart.

26. The method of claim 25 wherein the advancing step includes releasably coupling the constriction device to an elongated flexible introducer and moving the constriction device into the coronary sinus with the introducer.

20 27. The method of claim 26 including the further steps of releasing the introducer from the constriction device when the constriction device at least partially encircles the mitral valve and removing the introducer from the patient.

25 28. The method of claim 26 including the further step of placing a cylindrical sheath within the coronary sinus of the heart of the patient, the sheath having a cross sectional dimension for receiving the introducer and constriction device, and wherein the advancing step includes the step of guiding the introducer and constriction device into the coronary sinus within the sheath.

30 29. The method of claim 28 including the further steps of releasing the introducer from the constriction device when the constriction device at least partially encircles the mitral valve and removing the introducer and sheath from the patient.

30. The method of claim 29 including the further step of retracting the sheath until the sheath is proximal to the constriction device prior to releasing the introducer from the constriction device.

31. A mitral valve annulus constricting device comprising a generally C-shaped clip member formed of resilient material for exerting a substantially radially compressive force on the mitral valve annulus when placed adjacent to the mitral valve.

Tadd B.
Tadd B.